WHAT IS CLAIMED IS:

1. A method for mapping texture onto a surface of a computer generated object comprising the steps of:

approximating a true pixel color by performing a number of texturing operations according to a geometric shape of a projection of a pixel on the texture; and

averaging results of said texturing operations.

2. A method as set forth in claim 1, wherein each of said texturing operations comprises accessing a mip-map at least one time and interpolating of results if multiple accesses are performed

3. A method as set forth in claim 2, wherein said number of texturing operations is a power of two.

4. A method as set forth in claim 3, wherein said number is limited.

5. A method as set forth in claim 4, wherein at least one of texture and reflected environment is mapped onto the surface.

6. A method as set forth in claim 4, further comprising modifying specularly reflected light intensity on the surface by one of multiplying and otherwise combining said specularly reflected light intensity with a specular reflectance coefficient, said specular reflectance coefficient being retrieved from a specular reflectance coefficient map associated with the surface.

7. A method for modifying specularly reflected light intensity on the surface of a computer generated object comprising the steps of:

one of multiplying and otherwise combining the specularly reflected light intensity with a specular reflectance coefficient, said specular reflectance coefficient being retrieved from a specular reflectance coefficient map associated with the surface.

8. A method for adding detail to a texture map comprising the steps of:

generating a detail map; and

assigning a pointer into said detail map to each texture element of the texture map to generate a pointer map, said pointer comprising two offsets.

9. A method as set forth in claim 8, wherein said detail map is organized as a mip-map.

10. A method as set forth in claim 9, further comprising the steps of:

determining a texture address and level of detail for each pixel;

retrieving, if detail is needed as indicated by said level of detail, offsets from said point map;

using said offsets as detail map addresses;

accessing said detail map at least one time;

interpolating results of detail map accessing if multiple accesses are performed; and

mapping texture maps and detail maps on a surface of a computer generated object.

11. A method as set forth in claim 10, wherein a final pixel color is a combination of a result of a detail mapping operation and a texture mapping operation, said texture mapping operation comprising at least one access to the texture map and subsequent interpolation of the results of said texture map accessing if multiple accesses are performed.

12. A method as set forth in claim 11, wherein at least one of said texture mapping, environment mapping, reflectance mapping and detail mapping is carried out in real time using dedicated arithmetic units.

13. A device for at least one of texture mapping, environment mapping, reflectance mapping and detail mapping comprising:

a dedicated arithmetic unit; and

memory units for storing at least one of texture, environment, reflectance and detail maps.

14. The device of claim 13, further comprising:

a filter unit for generating prefiltered images of less detail; and

means for accessing pixels of a previous half-frame to perform said filtering.

15. A device for mapping at least one of non-interlaced and interlaced real time video images onto a surface of a computer generated object comprising;

a filter unit for generating prefiltered images of less detail; and

means for accessing pixels of a previous half-frame to perform said filtering.

16. A method for mapping texture onto a surface of a computer generated object, comprising the steps of :

compressing a texture map using blockwise two-level (one bit) quantization of brightness values or colors;

mapping said compressed texture map on a storage medium; and

mapping said stored texture map into the surface of a the computer generated object.

17. A method as set forth in claim 16, wherein resulting colors of an entire compressed texture are again quantized to one of a smaller number of bits and 8 bits.

18. A method as set forth in claim 17, wherein said two-level quantization step comprises:

calculating a tensor of inertia from input values;

determining an eigenvector having a smallest eigenvalue from said tensor;

multiplying said smallest eigenvalue eigenvector with said input values; and

splitting the input values in two groups by comparing a result of said multiplication with a threshold value.

19. A method as set forth in claim 18, further comprising the steps of:

generating filtered textures of less detail; and

compressing said filtered textures.

20. A method as set forth in claim 19, wherein said texture mapping operation comprises:

one of accessing one of said compressed texture map and said filtered texture map at least one time; and

interpolating results if one of said compressed texture map and said filtered texture map is accessed a plurality of times.

21. A method as set forth in claim 20, wherein said texture mapping operation further comprises approximating true pixel color by performing a number of texturing operations according to a geometric shape of a projection of a pixel on the texture and averaging results of said texturing operations.

22. A method as set forth in claim 21, further comprising mapping at least one of a texture, environment, reflectance and detail maps onto the surface.

23. A method as set forth in claim 22, wherein at least one of said texture mapping, environment mapping, reflectance mapping and detail mapping is carried out in real time using dedicated arithmetic units.

24. A device for at least one of texture mapping, environment mapping, reflectance mapping and detail mapping comprising:

means for compressing a texture map using blockwise two-level (one bit) quantization of brightness values or colors;

means for storing said compressed texture map on a storage medium;

means for mapping said stored texture map onto the surface of the computer generated object;

dedicated arithmetic unit means; and

memory units for storing at least one of texture, environment, reflectance and detail maps.